

Curriculum Vitae

Simion Aștilean



- *Corresponding Member of Romanian Academy,*
- *Professor Emeritus at the Faculty of Physics,*
- *Director of Nanobiophotonics and Laser Microspectroscopy Center, Babeș-Bolyai University;*

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Personal data

Born 6 March 1956, Tiołtiur (Cornești), county of Cluj, Romania

Education

1990-1993: *PhD in Physics* at the Joseph Fourier University, Grenoble, France

Thesis: Transfert photoinduit de protons dans des cristaux mixtes pentacene-acide benzoique caractérisé par spectroscopie optique

Qualification « Très honorable avec félicitations » PhD advisor: Dr H. P. Trommsdorff

1980-1981: *MSc. in Physics (Solid State Physics)*, Faculty of Physics,

Babeș-Bolyai University, Cluj-Napoca, Romania

1976-1980: *BSc in Physics*, Faculty of Physics,

Babeș-Bolyai University, Cluj-Napoca, Romania

Employment

since 2021: *Professor Emeritus*, Babeș-Bolyai University Cluj-Napoca, Romania

2003 – 2021: *Professor*, Babeș-Bolyai University Cluj-Napoca, Romania

1996 – 2002: *Associate Professor* Babeș-Bolyai University, Cluj-Napoca, Romania

1994 - 1996: *Lecturer*, Babeș-Bolyai University, Cluj-Napoca, Romania

1986 - 1994: *Assistant Professor*, Babeș-Bolyai University, Cluj-Napoca, Romania

1981 - 1986: *High school teacher*, Dej, county of Cluj, Romania

Visiting Scientist

1-30.06.2015, University Paris 13, Bobigny, Paris (invited professor, Ref. Prof Marc Lamy de la Chapelle)

1-30.06 /2007, University „Denis Diderot” Paris VII, Paris (invited professor)

Project: *Plasmonic nanostructures for Surface-Enhanced Vibrational Spectroscopy* (Ref. Prof Jean Aubard)

1/06-31/06 (2006): Laboratoire d'Etudes des Propriétés Electroniques des Solides, CNRS, Grenoble, France (invited professor)

Project: *Designing new experiments for single-molecule optical detection* (Ref: Dr Tomas-Lopez Rios)

1/06-30/08 (2003): Université Joseph Fourier, Laboratoire de Spectrométrie Physique, Grenoble, France (invited professor)

Project: *Photoinduced structural modifications in organic crystals* (Ref: Prof. Roger Casalegno)

1/01 (2001) – 31/12 (2002): University of Exeter, Photonics Group, UK (visiting scientist)

Project: *Photonic control of light-molecule interactions.*(Prof WL Barnes)

1/01-31/12 (2000): The Weizmann Institut of Science, Rehovot, Israel (visiting scientist)

Project: *Single-molecule detection by Raman and fluorescence spectroscopy* (Ref: Dr Gilad Haran)

01/02-31/11 (1997): Institut d'Optique Theorique et Appliquee, Paris, France (post-doc)

Project: *Design and fabrication of periodically nanostructured films for diffractive elements* (Ref: Dr. Philippe Lalanne)

Current Research Directions

► *Development of new nano-systems based on plasmonic nanoparticles incorporating specific biomolecules, anti-cancer drugs and molecular reporters for applications in nanomedicine and, particularly, in cancer nano-therapy (targeted cancer nano-chemotherapy, nano-photodynamic therapy, plasmonic hyperthermia, multimodal therapy, molecular imaging and diagnostic, etc.)*

► *Development of plasmonic nano-biosensors and nanodevices based on (periodically) nanostructured metallic films or colloidal nanoparticles for detection and identification of various biomarkers and (bio)chemical agents via vibrational spectroscopy including ordinary*

Raman and SERS, localized surface plasmon resonance LSPR-UV-VIS, steady-state and time-resolved fluorescence including metal-enhanced fluorescence (MEF), FCS and FRET, etc.

► *Implementation of reliable and less expansive nanofabrication and nano-structuration procedures (self-assembling, nanosphere lithography, thin film deposition, chemical synthesis and bio-synthesis of plasmonic nanoparticles, CVD, RIE processing, etc.)*

Areas of Research Expertise

► *Nanomaterials, nanofabrication and characterization* of noble metal nanoparticles, graphene and carbon dots, hybrid nanoparticles, surface activation and biofunctionalization; colloidal self-assembly, nanosphere lithography, thin film deposition, plasma cleaning and etching, reactive ion etching; atomic force microscopy, electron microscopy, etc)

► *Optical and laser spectroscopy*: confocal Raman and fluorescence microscopy including time-resolved fluorescence, FCS, FRET, SERS, FT-IR, UV-VIS, dark-field and DIC microscopy, dynamic light scattering (DLS), ‘hole-burning’ optical spectroscopy, etc..

► *Simulations in optics and photonics*: FDTD-finite-difference time-domain, RCWA-rigorous coupled wave analysis, DDA-discrete dipole approximation.

Achievements

► Co-author of 270 scientific papers, of which 246 are published in ISI journals and more than half are published in Q₁ top journals (Web of Science Core Collection);

► Included in the list of the first 2% most cited scientists in the world in his field of research in 2020 and 2021 (World’s Ranking of 2% most cited Top Scientists, Stanford Univ. and Elsevier by Scopus) and *in the top 0.5% of all scholars worldwide, according to the most recent 2024 ScholarGPS rankings.*

► Winner of Romanian Research Gala (January 31, 2023) at the category "Experienced Researcher & Research Team";

► 7580 international citations (excluding self-citations) ISI Web of Science Hirsch index H= 47;

► Co-author of scientific book published by Springer Verlag Ed.;

► Invited contributor of 7 chapters in international books;

► Co-author of 3 scientific books published in Romanian;

► Co-editor of one scientific book published in Romania;

► 36 invited/plenary lectures in international conferences;

► Principal investigator of 9 national research projects +3 bilateral international projects.

- ▶ Advisor of 25 PhD students (2 enrolled in international joint program).
- ▶ Guest Editor for a special issue on SERS published in Journal of Nanotechnology (2012)
<http://www.hindawi.com/journals/jnt/2012/413156/>;
- ▶ Co-Editor for a special issue in J. Mol. Structure (2013) for a collection of papers presented at the XXXIst European Congress on Molecular Spectroscopy, Cluj-N, Romania, Aug 26-31, 2012;
- ▶ Co-chairman of the European Congress on Molecular Spectroscopy (EUCMOS 2012) in Cluj-Napoca <http://www.phys.ubbcluj.ro/eucmos2012/> ;
- ▶ Member of the International Scientific Committee of European Congress on Molecular Spectroscopy (<http://eucmos2016.mke.org.hu/organizers-and-committees.html>)
- ▶ Member of the International Scientific Committee of European Conference in Spectroscopy of Biological Molecules (<http://www.ecsbm2015.de/general-information/organizational-remarks/>);
- ▶ 2 articles featured on the front cover of Nanotechnology Journal:
<http://ej.iop.org/pdf/nano/vol22/na2205-webcover.pdf>; Nanotechnology, Vol 26 (5), 2015,
- ▶ 1 article featured on the front cover of Applied Material & Interfaces Journal Vol 5(4), 2013
<http://pubs.acs.org/toc/aamick/5/4>
- ▶ Invited paper in Journal of Optics highlighted in Lab Talk on IOPscience:
<http://iopscience.iop.org/2040-8986/labtalk-article/63085>
- ▶ Review paper in Polymer International 65 (2016) 157–163 highlighted in Materials Views: <http://www.materialsviews.com/towards-more-efficient-oleds-enhancing-the-emission-properties-of-polymeric-semiconductors/>;
- ▶ Research paper highlighted in the Editorial of Nanotechnology dedicated to the International Year of Light 2015 “<http://iopscience.iop.org/0957-4484/26/9/090201/article>”
- ▶ Research paper featured on nanotechweb.org (Lab Talk):
<http://iopscience.iop.org/0957-4484/labtalk-article/48366>

Honors and Awards

1. „Dragomir Hurmuzescu” Romanian Academy Award (1990);
2. Diploma of Scientific Excellence (Babes-Bolyai University in 2008, 2010, 2016).

Functions and Academic Responsibilities

1. Member of CNATDCU (2016-2020)
2. Member of CNATDCU -Appeal Commission (2015-2016)
3. Member of CNDI (2011-2012)
4. Director of Doctoral School (2017-2022);
5. Member of Scientific Council of Babes-Bolyai University (2016-2022);

Publications

► Articles in ISI journals

- 246.** *Graphene-mediated surface enhanced Raman spectroscopy for DNA Detection&hybridization: Breakthroughs and challenges*, V. Cucuiet, D. Maniu, S. Astilean, M. Lamy de la Chapelle, M. Focsan, **Biosens. Bioelectron.**, 286 (2025) 117610
- 245.** *Unveiling DNA Hybridization Dynamics via High-Sensitivity SERS Detection: Insights into Conformational Changes and Oligonucleotide Length Effects*, D. Stoia, D. Maniu, M. Potara, A. M. Craciun, M. Edely, S. Grecu, A. Timar-Gabor, S. Astilean, M. Focsan, M. Lamy de la Chapelle, **J. Phys. Chem. Lett.**, 16 (2025) 5610-5618
- 244.** *Recent advances on gold nanoparticles - graphene hybrid nanoplatforms with visible to near-infrared response for photodynamic, photothermal therapy and bioimaging*, A. Holca, V. Cucuiet, S. Astilean, M. Lamy de la Chapelle, **RSC Adv.**, 15 (2025) 11902-11922
- 243.** *Fabrication and characterization of large-scale ordered silver-coated polystyrene microspheres films for surface-enhanced Raman spectroscopy*, A. M. Craciun, A. Colnita, D. Marconi, L. Barbu-Tudoran, I. Turcu, M. Focsan, A. Vasilescu, M. Potara, S. Astilean, **Phys. Scr.**, 100 (2025) 045524
- 242.** *Probing the Local Field Enhancement Using SERS Detection of DNA Strands with Different Lengths and Grafting Strategies on Graphene Oxide Plasmonic Nanoplatforms*, V. Cucuiet, D. Maniu, A. M. Craciun, S. Tripon, S. Astilean, M. Lamy de la Chapelle, M. Focsan, **J. Phys. Chem. Lett.**, 16 (2025) 435-442
- 241.** *Intraoperative imaging of residual ovarian cancer after neoadjuvant chemotherapy using indocyanine green*, P. Achimas-Cadariu, P. Kubelac, A. Pasca, V. Gata, B. Fetica, O. Balacescu, E. Fischer-Fodor, M. Focsan, S. Astilean, C. Vlad, **Int. J. Gynecol. Cancer** (2025) 101868
- 240.** *Gold nanoparticles conjugated with fluorophore-labeled DNA: overview of sensing and imaging applications*, A.M. Craciun, S. Astilean, M. Focsan, M. Lamy de la Chapelle, **TrAC, Trends Anal. Chem.**, 180 (2024) 117913
- 239.** *Plasmon-enhanced photocatalysis: New horizons in carbon dioxide reduction technologies*, M. Tudor, R. Borlan, D. Maniu, S. Astilean, M. Lamy de la Chapelle, M. Focsan, **Sci. Total. Environ.**, 932 (2024) 2234-2259

- 238.** *Aptamer-conjugated gold nanoparticles for portable, ultrasensitive naked-eye detection of C-reactive protein based on the Tyndall effect*, A.M. Hada, S. Suarasan, M. Muntean, M. Potara, S. Astilean, **Anal. Chim. Acta**, 1307 (2024) 342626
- 237.** *Dual-Modal Near-Infrared Organic Nanoparticles: Integrating Mild Hyperthermia Phototherapy with Fluorescence Imaging*, R. Borlan, M. Tudor, O. Soritau, A. Florea, E. Pall, B. Pop, D. Maniu, S. Astilean, M. Focsan, **Int. J. Nanomed.**, 2024:19 (2024) 9071-9090
- 236.** *Portable microfluidic plasmonic chip for fast real-time cardiac troponin I biomarker thermoplasmonic detection*, A. Campu, I. Muresan, M. Potara, D. R. Lazar, F. L. Lazar, S. Cainap, D. M. Olinic, D. Maniu, S. Astilean, M. Focsan, **J. Mater. Chem. B**, 12 (2024) 962-972
- 235.** *Innovative, Flexible and Miniaturized Microfluidic Paper-based Plasmonic Chip for Efficient Near-Infrared Metal Enhanced Fluorescence Biosensing and Imaging*, A. Campu, I. Muresan, A. M. Craciun, A. Vulpoi, S. Astilean, M. Focsan, **ACS Appl. Mater. Interfaces.**, 15, 48 (2023) 55925–55937
- 234.** *Gelatin-assisted fabrication of reduced nanographene oxide for dual-modal imaging of melanoma cells*, V. Cucuiet, M. Iliuț, M. Potara, K. Magyari, S. Tripon, O. Soritau, D. Maniu, S. Astilean, M. Focsan, **Coll. Surf. B: Biointerfaces**, 231 (2023) 113546
- 233.** *Dual-emissive solid-state histidine-stabilized gold nanoclusters for applications in white-light generation*, M. Zetes, A.-M. Hada, M. Todea, L. I. Gaina, S. Astilean, A. M. Craciun, **Nanoscale Adv.**, 5 (2023) 5810-5818
- 232.** *Controlling the optical and morphological stability of 4-mercaptobenzoic acid-modified triangular silver nanoplates in saline environments*, S. Suarasan, A.-M. Hada, M. Muntean, A. Vulpoi, M. Potara, S. Astilean, **Appl. Surf. Sci.**, 638 (2023) 158126
- 231.** *Albumin Nanoparticles with Tunable Ultraviolet-to-Red Autofluorescence for Label-Free Cell Imaging and Selective Biosensing of Copper Ions*, R. Borlan, O. Soritau, D. Maniu, A. Hada, A. Florea, S. Astilean, M. Focsan, **Int. J. Biol. Macromol.**, 242 (2023) 125129
- 230.** *Progress in the Optical Sensing of Cardiac Biomarkers*, C. Polonschii, M. Potara, M. Iancu, S. David, R. M. Banciu, A. Vasilescu, S. Astilean, **Biosensors**, 13 (2023) 632
- 229.** *NIR photothermal-activable drug-conjugated microcapsules for in vitro targeted delivery and release: An alternative treatment of diabetic retinopathy* D. Stoia, M. Nistor, M. Suciu, R. Borlan, A. Campu, D. Rugina, D. Maniu, S. Astilean, M. Focsan, **Int. J. Pharm.**, 635 (2023) 122700
- 228.** *Hybrid Polymeric Therapeutic Microcarriers for Thermoplasmonic-Triggered Release of Resveratrol* D. Stoia, R. Pop, A. Campu, M. Nistor, S. Astilean, A. Pintea, M. Suciu, D. Rugina, M. Focsan, **Colloid Surf. B Biointerfaces**, 220 (2022) 112915

- 227.** *Assessing the efficiency of triangular gold nanoparticles as NIR photothermal agents in in vitro and melanoma tumor model*, S. Suarasan, A. Campu, A. Vulpoi, M. Banciu, S. Astilean, **Int. J. Mol. Sci.**, 23 (2022) 13724
- 226.** *Photoluminescent Histidine-Stabilized Gold Nanoclusters as Efficient Sensors for Fast and Easy Visual Detection of Fe Ions in Water Using Paper-Based Portable Platform*, A.-M. Hada, M. Zetes, M. Focsan, S. Astilean, A.-M. Craciun, **Int. J. Mol. Sci.**, 23 (2022) 12410
- 225.** *Portable Plasmonic Paper-Based Biosensor for Simple and Rapid Indirect Detection of CEACAM5 Biomarker via Metal-Enhanced Fluorescence*, L. Susu, A. Vulpoi, S. Astilean, M. Focsan, **Int. J. Mol. Sci.**, 23 (2022) 11982
- 224.** *New methylene blue analogues with N-piperidiny-carbinol units: Synthesis, optical properties and in vitro internalization in human ovarian cancer cells*, B. Stoean, L. Gaina, C. Cristea, R. Silaghi-Dumitrescu, A. Branzanic, M. Focsan, E. Fiser-Fodor, B. Tigiu, C. Moldovan, A. Cecan, P. Achimas-Cadariu, S. Astilean, L. Silaghi-Dumitrescu, **Dyes Pigm.** 205 (2022) 110460
- 223.** *Linezolid nanoAntibiotics and SERS-nanoTags based on polymeric cyclodextrin bimetallic core-shell nanoarchitectures*, A.-M. Hada, M. Potara, S. Astilean, A. Cordaro, G. Neri, M. Malanga, A. Nostro, A. Mazzaglia, A. Scala, A. Piperno, **Carbohydr. Polym.**, 293 (2022) 119736
- 222.** *Glutathione-capped gold nanoclusters as near-infrared-emitting efficient contrast agents for confocal fluorescence imaging of tissue-mimicking phantoms*, A.M. Hada, A.M. Craciun, M. Focsan, A. Vulpoi, E.L. Borcan, S. Astilean, **Microchim. Acta**, 189 (2022) 337
- 221.** *Probing polyvinylpyrrolidone-passivated graphene oxide nanoflakes as contrast agents inside tissue-like phantoms via multimodal confocal microscopy*, M. Potara, S. Suarasan, A.-M. Craciun, M. Focsan, A.-M. Hada, S. Astilean, **Talanta**, 247 (2022) 123581
- 220.** *Cardiac Troponin Biosensor Designs: Current Developments and Remaining Challenges*, A. Campu, I. Muresan, A.M. Craciun, S. Cainap, S. Astilean, M. Focsan, **Int. J. Mol. Sci.**, 23 (2022) 7728
- 219.** *Development and evaluation of a gold nanourchin (GNU)-based sandwich architecture for SERS immunosensing in liquid*, A.S. Tatar, C. Farcau, A. Vulpoi, S. Boca, S. Astilean, **Spectrochim. Acta A Mol. Biomol. Spectrosc.**, 273 (2022) 121069
- 218.** *Size and surface coverage density are major factors in determining thiol modified gold nanoparticles characteristics*, A. Farcas, L. Janosi, S. Astilean, **Comput. Theor. Chem.**, 1209 (2022) 113581
- 217.** *Intrinsic Photoluminescence of Solid-State Gold Nanoclusters: Towards Fluorescence Lifetime Imaging of Tissue-Like Phantoms Under Two-Photon Near-Infrared Excitation*, A.-M. Hada, A. M. Craciun, S. Astilean, **Front. Chem.**, 9 (2021) 761711

- 216.** *Gold nanoclusters performing as contrast agents for non-invasive imaging of tissue-like phantoms via two-photon excited fluorescence lifetime imaging*, A.-M. Hada, A. M. Craciun, S. Astilean, **Analyst**, 146 (2021) 7126-7130
- 215.** *Fluorescent Phtalocyanine-Encapsulated Bovine Serum Albumin Nanoparticles: Their Deployment as Therapeutic Agents in the NIR Region*, R. Borlan, D. Stoia, L. Gaina, A. Campu, G. Marc, M. Perde-Schrepler, M. Sillion, D. Maniu, M. Focsan, S. Astilean., **Molecules**, 26 (2021) 4679
- 214.** *Antibody Functionalized Theranostic Protein Nanoparticles for Synergistic Deep Red Fluorescence Imaging and Multimodal Therapy of Ovarian Cancer*, R. Borlan, M. Focsan, M. Perde-Schrepler, O. Soritau, A. Campu, L. Gaina, E. Pall, B. Pop, O. Baldasici, C. Gherman, D. Stoia, D. Maniu, S. Astilean, **Biomaterials Science**, 9 (2021) 6183-6202
- 213.** *Folate-targeted Pluronic-chitosan nanocapsules loaded with IR780 for near-infrared fluorescence imaging and photothermal-photodynamic therapy of ovarian cancer*, M. Potara, T. Nagy-Simon, M. Focsan, E. Licarete, O. Soritau, A. Vulpoi, S. Astilean, **Colloids Surf. B Biointerfaces**, 203 (2021) 111755
- 212.** *New Insight on the Aptamer Conformation and Aptamer/protein Interaction by Surface Enhanced Raman Scattering and Multivariate Statistical Analysis*, W. Safar, A.-S. Tatar, A. Leray, M. Potara, L. Qiqian, M. Edely, N. Djaker, J. Spadavecchia, W. Fu, S. Gam Derouich, N. Felidj, S. Astilean, E. Finot, M. Lamy de la Chapelle, **Nanoscale**, 13 (2021) 12443-12453
- 211.** *One-photon excited photoluminescence of gold nanospheres and its application in prostate specific antigen detection via fluorescence correlation spectroscopy (FCS)*, A-M Craciun, S. Suarasan, M. Focsan, S. Astilean, **Talanta**, 228 (2021) 122242
- 210.** *Folic acid functionalized gold nanoclusters for enabling targeted fluorescence imaging of human ovarian cancer cells*, A.-M. Hada, A.-M. Craciun, M. Focsan, R. Borlan, O. Soritau, M. Todea, S. Astilean, **Talanta**, 225 (2021) 121960
- 209.** *Novel (Phenothiazinyl)Vinyl-Pyridinium Dyes and Their Potential Applications as Cellular Staining Agents*, B. Stoean, D. Rugina, M. Focsan, A-M. Craciun, M. Nistor, T. Lovasz, A. Turza, I-D. Porumb, E. Gál, C. Cristea, L. Silaghi-Dumitrescu, S. Astilean and L. Gaina, **Int. J. Mol. Sci.**, 22 (2021) 2985
- 208.** *Fluorescent Polyelectrolyte System to Track Anthocyanins Delivery inside Melanoma Cells*, R. Ghiman, M. Nistor, M. Focșan, A. Pinteaa, S. Astilean and D. Rugina, **Nanomaterials**, 11 (2021) 782
- 207.** *SERS characterization of aggregated and isolated bacteria deposited on silver-based substrates*, C. C. Andrei, A. Moraillon, E. Larquet, M. Potara, S. Astilean, E. Jakab, J. Bouckaert, L. Rosselle, N. Skandrani, R. Boukherroub, F. Ozanam, S. Szunerits, A. Chantal Gouget-Laemmel, **Anal. Bioanal. Chem.**, 413 (2021) 1417-1428

- 206.** *Interventional NIR Fluorescence Imaging of Cancer: Review on Next Generation of Dye-Loaded Protein-Based Nanoparticles for Real-Time Feedback During Cancer Surgery*, R. Borlan, M. Focsan, D. Maniu, S. Astilean, **Int. J. Nanomedicine**, 16 (2021) 2147–2171
- 205.** *A new, fast and facile synthesis method for reduced graphene oxide in N, N-dimethylformamide*, R. Tarcan, M. Handrea-Dragan, O.Todor-Boer, I. Petrovai, C. Farcau, M. Rusu, A. Vulpoi, M. Todea, S. Astilean, I. Botiz, **Synthetic Metals** 269 (2020) 116576
- 204.** *ICG-loaded gold nano-bipyramids with NIR activatable dual PTT-PDT therapeutic potential in melanoma cells*, A. Campu, M. Focsan, F. Lerouge, R. Borlan, L. Tie, D. Rugina, S. Astilean, **Colloid Surf. B**, 194 (2020) 111213
- 203.** *Microfluidic Platform for Integrated Plasmonic Detection in Laminar Flow*, A. Campu, F. Lerouge, A. M. Craciun, T. Murariu, I. Turcu, S. Astilean, M. Focsan, **Nanotechnology**, 31 (2020) 335502
- 202.** *Design of Fluorophore Loaded Human Serum Albumin Nanoparticles for Specific Targeting of NIH:OVCA3 Ovarian Cancer Cells*, R. Borlan, A. S. Tatar, O. Soritau, D. Maniu, G. Marc, A. Florea, M. Focsan, S. Astilean, **Nanotechnology**, 31 (2020) 315102
- 201.** *Intracellular Fate and Impact on Gene Expression of Doxorubicin/Cyclodextrin-Graphene Nanomaterials at Sub-Toxic Concentration*, D. Caccamo, M. Currò, R. Ientile, E. Verderio, A. Scala, A. Mazzaglia, R. Pennisi, M. Musarra-Pizzo, R. Zagami, G. Neri, C. Rosmini, M. Potara, M. Focsan, S. Astilean, A. Piperno, M. Sciortino, **Int. J. Mol. Sci.**, 21 (2020) 4891
- 200.** *Versatile Polypeptide-Functionalized Plasmonic Paper as Synergistic Biocompatible and Antimicrobial Nanoplatform*, L. Tie, M. Răileanu, M. Bacalum, I. Codita, Ș. Negrea, C. Caracoti, E. Drăgulescu, A. Campu, S. Astilean, M. Focsan, **Molecules**, 25 (2020) 3182
- 199.** *Surface Passivation of Carbon Nanoparticles with 1,2-Phenylenediamine towards Photoluminescent Carbon Dots*, A. P. Crisan A.-M. Craciun, I. Mihalache, M. Focsan, C. Socaci, D. Maniu, S. Astilean, L. M. Veca, A. Terec, **Rev. Roum. Chim.**, 65 (2020) 559-566
- 198.** *Calligraphed Selective Plasmonic Arrays on Paper Platforms for Complementary Dual Optical "ON/OFF Switch" Sensing*, L. Susu, A. Campu, S. Astilean, M. Focsan, **Nanomaterials**, 10 (2020) 1025
- 197.** *Control of Microstructure in Polymer: Fullerene Active Films by Convective Self-Assembly*, O. Todor-Boer, I. Petrovai, R. Tarcan, L. David, S. Astilean, I. Botiz, **Thin Solid Films**, 697 (2020) 137780
- 196.** *Reduced Graphene Oxide Today*, R. Tarcan, O. Todor-Boer, I. Petrovai, C. Leordean, S. Astilean, I. Botiz, **J. Mater. Chem. C**, 8 (2020)1198-1224
- 195.** *Casting Light on Intracellular Tracking of a New Functional Graphene-based microRNA Delivery System by FLIM and Raman Imaging*, A. Piperno, A. Mazzaglia, A. Scala, R. Pennisi, R.

Zagami, G. Neri, S. M. Torcasio, C. Rosmini, P. G. Mineo, M. Potara, M. Focsan, S. Astilean, G. G. Zhou, M. T. Sciortino, **ACS Appl. Mater. Interfaces**, 11 (2019) 46101 – 46111

194. *Enhancing Photoluminescence Quenching in Donor-Acceptor PCE11:PPCBMB Films through the Optimization of Film Microstructure*, O. Todor-Boer, I. Petrovai, R. Tarcan, A. Vulpoi, L. David, S. Astilean, I. Botiz, **Nanomaterials**, 9 (2019) 1757

193. *CD19-targeted, Raman Tagged Gold Nanourchins as Theranostic Agents Against Acute Lymphoblastic Leukemia*, A.S. Tatar, A. Jurj, C. Tomuleasa, A. Florea, I. Berindan-Neagoe, D. Cialla-May, J. Popp, S. Astilean, S. Boca, **Colloid Surf. B**, 184 (2019) 110478

192. *Assessment of the Photothermal Conversion Efficiencies of Tunable Gold Bipyramids under Irradiation by Two Laser Lines in NIR Biological Window*, A. Campu, A. M. Craciun, M. Focsan, S. Astilean, **Nanotechnology**, 30 (2019) 405701

191. *Efficient Combined Near-Infrared-Triggered Therapy: Phototherapy over Chemotherapy in Chitosan-Reduced Graphene Oxide-IR820 Dye-Doxorubicin Nanoplatforms*, D. Zaharie-Butucel, M. Potara, S. Suarasan, E. Licarete, S. Astilean, **J. Colloid. Interface Sci**, 552 (2019) 218 – 229

190. *Resveratrol-Delivery Vehicle with anti-VEGF Activity Carried to Human Retinal Pigmented Epithelial Cells Exposed to High-Glucose Induced Conditions*, D. Rugină, R. Ghiman, M. Focșan, F. Tăbăran, F. Copaciuc, M. Suciu, A. Pintea, S. Astilean, **Colloid Surf. B**, 181 (2019) 66 – 75

189. *Controlling the End-to-End Assembly of Gold Nanorods to Enhance the Plasmonic Response in Near Infrared*, L. Tie, M. Focsan, J. Bosson, C. Tira, A. Campu, A. Vulpoi, S. Astilean, **Mater. Res. Express**, 6 (2019) 095038

188. *Fabrication of Gold-Silver Core-Shell Nanoparticles for Performing as Ultrabright SERS-Nanotags Inside Human Ovarian Cancer Cells*, A. M. Hada, M. Potara, S. Suarasan, A. Vulpoi, T. Nagy-Simon, E. Licarete, S. Astilean, **Nanotechnology**, 30 (2019) 315701

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